

Mumbai University

Question Paper

**[CBSGS – 75:25 PATTERN]
(OCTOBER – 2016)**

PAPER - I

**INTERNET
TECHNOLOGIES**

Time: 2 ½ Hours**Total Marks:** 75**N.B.:** (1) All Question are Compulsory.

(2) Make Suitable Assumptions Wherever Necessary And State The Assumptions Made.

(3) Answer To The Same Question Must Be Written Together.

(4) Number To The Right Indicates Marks.

(5) Draw Neat Labeled Diagrams Wherever Necessary.

(6) Use of Non – Programmable Calculator is allowed.

Q.1 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

(A) List functionalities of Physical Layer. Explain any four. (5)

(B) Change the following IP Address from Dated Decimal Notation to Hexadecimal Notation: (5)

(i) 114.34.2.8

(ii) 129.14.6.8

(iii) 208.34.54.12

(iv) 238.34.2.1

(v) 192.177.23.15

(C) List Multi-Byte options of IPv4. Explain any one with suitable example. (5)

(D) Explain the Auto configuration feature of IPv6. (5)

Q.2 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

(A) Explain the working of Cache Control include of ARP. (5)

(B) List different types of ICMP Error Messages. Explain any two. (5)

(C) Write the inefficiencies in mobile IP. Give the solution for the same. (5)

(D) With suitable example explain the Distance Vector Routing Algorithm. (5)

Q.3 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)(A) The following is a dump of a UDP Header in Hexa Decimal Format. (5)**CB8400D001C001C**

(i) What is the source port number?

(ii) What is the Destination Port Number?

(iii) What is the total length of the User Datagram?

(iv) What is the length of the data?

Is the packet directed from a client to server or Vice Versa?

(B) Draw TCP Segment Format. Write the purpose of each field. (5)

(C) How Retransmission Time Out (RTO) is calculated in TCP? Explain with suitable example. (5)

(D) A TCP Connection is to ESTABLISHED State. The following events occur one after another: (5)

(i) A FIN Segment is received

(ii) The application sends a "close" message

What is the state of the connection after each event?

What is the action after each event?

Q.4 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

(A) Explain the Question Record Format of DNS? (5)

(B) List various Chunks Wed by SCTP. Write purpose of each? (5)

(C) Draw and explain the DHCP Client Transition diagram? (5)

(D) How Name Compression is carried out in DNS? Explain with example. (5)

[TURN OVER]

Q.5 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) List options used in TELNET. Write meaning of each. (5)
- (B) Explain various Transmission Modes and File Data Structures used by FTP. (5)
- (C) Explain the HTTP Request Message Format. (5)
- (D) Assume there is a server with the domain name www.common.com. (5)
 - (i) Show a request that retrieves the document / user/users/doc/doc1.
 - (ii) Use at least two general headers, two request headers, and one entity header.
 - (iii) Show the response to part for a successful request.

Q.6 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Write the phases for transferring a Mail Messages in SMTP. (5)
- (B) List the SMTP Commands used to transfer messages between an MTA Client and an MTA Server. Write the purpose of any four. (5)
- (C) Differentiate between POP3 and IMAP. (5)
- (D) List and explain various flow characteristics. (5)

Q.7 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) Compare IPv6 and IPv4 Protocols. (5)
 - (B) List various BGP Message. Write the purpose of each. (5)
 - (C) How is congestion handled in TCP? Explain. (5)
 - (D) Explain the association establishment process of SCTP. (5)
 - (E) List characters used to control program running on Remote Server. Write the purpose of each. (5)
 - (F) Explain Image Compression. (5)
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